

DETERMINANTS OF SAVING AND INVESTMENT IN DEPRIVED DISTRICT CAPITALS IN GHANA -A CASE STUDY OF NADOWLI IN THE UPPER WEST REGION OF GHANA

Haruna Issahaku

University for Development Studies, Faculty of Integrated Development Studies, Department of Economics and Entrepreneurship Development, Box 520, Wa, Upper West Region, Ghana.

ABSTRACT

This study was based on a microeconomic approach of estimating the determinants of financial saving and investment in one of the most deprived district capitals in Ghana, the Nadowli in the Nadowli District of the Upper West Region. Two separate multiple linear regression models were fitted for saving and investment. The Paper found that there is the propensity to save and invest in Nadowli in spite of low income. Whereas the levels of income, educational status, occupation, have positive influence on saving, the number of dependents exerts a negative influence on saving. The paper found that age composition and assets do not have a significant effect on saving. The factors that drive household investment are occupation, expenditure, assets and saving. Any decision or policy pertaining to finance and development by government, the private sector or financial institutions geared towards improving saving and investment in Nadowli must incorporate these factors.

KEYWORDS: saving, investment, household income, dependents, assets, educational status.

BACKGROUND AND PROBLEM STATEMENT

Aggregate saving and investment in any economy are dependent on a number of interdependent variables. For economic planning purposes, it is important that economic planners have a true and fair idea about the quantum of saving and investment, the behaviour of people towards saving and investment and the method by which saving can be improved for investment decisions. Economic planners also need to know about the motives of saving and investment in order to frame appeals accordingly. Knowledge about saving and investment preference would also help design and implement saving instruments which effectively stimulate saving. The enormous importance of the rural household sector cannot therefore be overemphasized. As was observed by Mody (1983: 14), “given the present weight of the household sector in total saving, to step up the saving in the economy would require a stepping up of the saving rate in the household sector. Thus, there is the need to carefully understand the determinants of both the household saving rate and the saving pattern”.

In the formation of physical assets in every economy, household saving is of utmost importance. The households undertake a substantial portion of the physical investment directly and they also make public and private corporate investment possible by the transfer of saving. The implication is that the household saving behaviour determines to a large extent whether or not investment targets have been achieved. Hence, the volume of saving of the household sector and the form in which it is held is of crucial importance, as consumption reflects the efficiency of investment of saving.

The rural household sector is also of utmost importance to the Ghanaian economy in this case not only because of the income generated and the employment potentials of the sector, but also because of the limits set by this sector to the growth of other sectors. In the light of this, the take-off of the rural economy in particular and the aggregate economy at large depends heavily on the amount of savings and their transfer into the hands of the more enterprising investors. There abounds numerous potential in the rural household sector. However, for a very long time policy makers and financial intermediaries have generally paid little service or neglected totally voluntary rural saving and investment in financial policy-making and rural development strategizing mainly due to the traditional or old view held by Adam Smith and other prominent economists that rural households are too poor to save and even if they get some additional income through some windfall they spend it on consumption or on ceremonies

Saving is normally considered in economics as disposable income minus personal consumption expenditure. In other words, it is regarded as income that is not consumed by immediately buying

goods and services. For the purpose of this study, it must be emphasized that “saving” refers to deposits in saving accounts. Thus, the studies focus on financial saving of households held by banks, microfinance institutions, Susu groups and other saving avenues.

The above definition is clear that saving is closely related to investment. By not using income to buy consumer goods and service, it is most likely for a resource to instead be invested by being used to produce tangible and intangible capital such as machinery, schooling, on-the-job training, among others. Saving can therefore be vital to increasing the amount of capital available. Meanwhile increased saving is a necessary but not a sufficient condition for investment. Saving undeniably therefore is a strategic variable in the theory of economic growth hence its role as a determinant of economic growth has been emphasized by classical economists like Adam Smith and David Ricardo.

In many developing economies particularly Africa, saving and investment are necessary engines for capital formation hence economic growth. It has been argued that saving constitutes the basis for capital formation and capital formation constitutes a critical determinant of economic growth. Available statistics however indicate low saving mobilization base and investment in this part of the world. For instance, between the period 1980-2001 saving in particular averaged 37.4 percent in Botswana, 21.45 percent in Cameroon, 21.6 percent in Nigeria, 13.9 percent in Kenya and 7.3 percent in Malawi (based on World Bank data base). All the statistics above have been done or obtained at the aggregate level without due regards to the rural household sector. This stems from the traditional view that rural households are too poor and for that matter cannot make any meaningful saving and investment choices.

In Ghana, data on household saving and investment behaviour is hardly available due to several factors including the sensitivity of financial matters. At the national or aggregate level however one can get some data. For instance, between the period 1980-2001 saving averaged 6.4 percent of total national income (Based on data available on the world bank database) the lowest in most developing countries during that period. The above fact underscores the relevance of this paper.

Several significant questions remain in and baffle the minds of many people as to what really the problem is. Such questions include among others as; do rural households in Ghana and for that matter Nadowli have a significant capacity to save? If so, in what form(s) do they save and why? What factors influence saving and investment behaviour in rural households? What financial avenues are available for households to save? These questions and many others continue to baffle policymakers and financial intermediaries in most developing countries particularly Ghana. This is because most studies carried out examined saving and investment behaviour only at the aggregate level without any or much substantive work on the household sector.

Meanwhile, to formulate or design appropriate theories or policies to boost saving and investment in the economy, it is important for one to better understand and appreciate the saving and investment characteristics of households. This study therefore attempts among other things, to find some responses, if any, to these above frequently asked and baffling questions. In particular, the study tries to better understand the saving and investment characteristics or behaviour of households taking Nadowli as a case study. Nadowli is chosen because according to the available statistics it is the poorest district in Ghana. Nadowli is the capital town of the Nadowli district of the Upper West Region. Nadowli offers a fair opportunity to verify the view held by some economists that poor households do not save. Also, since the fight against poverty cannot be won by ignoring saving and investment, the study will provide empirical evidence of the factors that engender saving and investments so as to guide the district assembly and other development actors to incorporate these factors in their development plans. This will eventually lead to pro-poor planning policies that are customized to suit the felt needs and aspirations of the people of Nadowli.

REVIEW OF LITERATURE

The Concepts of Saving and Investment

There have been empirical studies by researchers to determine factors affecting saving and investment behaviour and volume of saving of rural households. There are studies based on time series data, cross sectional data, and family budget survey. Studies on micro and macro perspectives with reference to developed and developing countries are also available.

Kelly and Williamson (1968) regressed per capita household saving against per capita household income for five household age groups in Indonesia. They found that the age of the head of the household is an important determinant of household saving in rural households and that the average and marginal saving rates rose with the share of agricultural income and the presence of positive interaction between wealth and saving. However, Shultz (2005) who analyzed the demographic determinants of savings in Asia found no significant relationship between savings and age composition.

Gupta (1970) using annual time series data from India analyzed the determinants of saving. He found that permanent income hypothesis is a better fit in the urban areas in India where as in the rural area saving behaviour is more in accordance with the absolute income hypothesis. He found that marginal propensity to save is an increasing function of income at lower level of development.

Prema-Chandra and Pang-Long (2003) examined the determinants of household saving in the process of economic development, in the light of the Taiwanese experience during the period 1952–99. They found that the household saving rate rises with both the level and the rate of growth of household disposable income and that the real deposit rate has a significant positive impact on saving. Public saving they discovered seems to crowd out private saving, but less than proportionately and that while both old- and young-dependency in population have a negative impact on the saving rate, the magnitude of the impact of the former is far greater than that of the latter. Finally, they concluded that increased availability of social security provisions and enhanced credit availability also seem to reduce saving.

Alma and Richard (1988) in their attempt to examine the saving behaviour of Filipino rural households regressed current income on saving and concluded that a large potential for voluntary saving can be found in the rural households of the Philippines and other less developed countries. They have substantial evidence to argue that there is no reason to believe that mobilization of voluntary rural household saving cannot be perused. Their findings further indicate that income is the most important economic variable affecting rural savings.

Repetto and Shah, (1975) studied the demographic and other influences on long term saving behaviour in India. The data for the study was collected from surveys conducted in the Kaira district of Maharashtra in 1930 and 1965. They found that large family size had a depressing effect on long term household saving rate. They also found that sons in rural India served as substitute assets in households and fulfil some of the demand for wealth and that the long term saving rate responds positively to a higher rate of return on saving and positively to higher-level of permanent income.

Bhalla (1978) investigated the effects of sources of income and investment opportunities on the saving behaviour of farm households in India. He used the survey data collected by National Council of Applied Economic Research (NCAER) during the three years starting from the year 1968-1969 and found that the propensity to save out of non-agricultural income was higher than the propensity to save out of agricultural income. The permanent income hypothesis (PIH) offers an explanation for this difference in propensity. He also found that investment opportunities increase saving, *ceteris paribus*, for the subsistence group of household and had a negative effect for the non-subsistence group.

Panickar (1992) studied the rural household saving and investment pattern in selected villages in Karala and Tamil nadu. The study was conducted with the objective of looking into the levels of saving and the manner of its disposition and in-depth analysis of factors underlying the rates of saving. From the study, it was found that a high proportion of saving was absorbed in unproductive assets leading to a vicious cycle of low income saving.

Employing a dynamic panel analysis of the determinants of the household saving rate in China using a life cycle model and panel data on Chinese provinces for the 1995-2004 period from China's household survey, Horioka and Wan (2007) established that China's household saving rate has been high and rising and that the main determinants of variations overtime and over space are the lagged saving rate, the income growth rate, the real interest rate and the inflation rate. However, they found that the variables relating to the age structure of the population usually do not have a significant impact on the household saving rate. These results they claimed provide mixed support for the life cycle hypothesis

as well as the permanent income hypothesis, and that they (the results) are consistent with the existence of inertia or persistence, and imply that China's household saving rate will remain high for some time to come.

Regarding the issue of whether rural households can save or not, two conflicting views have been aired: the traditional or old view and the new view. The traditional view purports the idea that rural households cannot save because they are too poor and therefore rural savings mobilization efforts are deemed futile and worthless. Lambert and Lim (1986: 11-28) summarised this view as "...they have low incomes because they have low productivity; they have low productivity because they are confined to the traditional methods of farming; they are confined to the traditional methods of farming because they do not have any savings that could be used to acquire new technology; they do not have savings because their income is low; and so on...". Adams (1978) and Von Pischke (1978) also argue that rural households are too poor to save and even if they get some additional income through some windfall, they spend it on consumption or on ceremonies.

Contrary to the traditional or old view is the new view which argues that rural households have the capacity and the desire to save and would respond appropriately to saving opportunities and incentives. The proponents of the new view cite a number of reasons to expect substantial potential for saving in rural areas. Firstly, they suggest that households save after harvests, when they sell a portion of their crops to expand consumption and others for investment as well as pay off debts. Secondly, they contend that rural households are heterogeneous comprising both rich and poor households where the rich households can always save over long and /or short periods whereas the poor households can save only over short periods as well as households with larger farms, higher income, better education and better jobs. The new view finally cites the introduction and application of more modern farming methods as they allow farmers in particular to increase yield and hence increase income and therefore savings.

MATERIALS AND METHODS

Sources of Data

Primary data were collected from households in Nadowli. Interviews and discussions were vigorously pursued with sampled households and this was mainly geared towards finding appropriate responses to some of the frequently asked questions about saving and investment. Interviews were also held with people about saving and investment. Questionnaires were designed and used so as to facilitate the collection of data from households and key informants.

Stratified random sampling technique was used to ensure that the various occupational groupings were fairly represented. This was done to reduce, if not eliminate, any source of biasness in the choice of respondents. The main targets in this particular study were household units and hence a total sample size of sixty household units involving sixty household heads was selected.

Empirical Specification of the Model

A linear savings and investment function is adapted from Rogg (2000) and Kibet *et al.* (2009). This study assumes linearity because the aim of the study is to test whether there is any association between the variables under study, assuming causality. Separate regression models were fitted respectively for the determinants of saving and investment behaviour as shown below.

The linear multiple regression model is of the form;

$$Sav = \alpha + \beta_1 Age + \beta_2 Educ + \beta_3 Occup + \beta_4 Deps + \beta_5 Income + \beta_6 Assets + \mu.$$

Where, Sav= saving; Age = age of respondent; Educ = educational status of respondent; Occup = occupation of respondent; Deps= number of dependents; Income = income level of respondent; Assets = value of assets of respondent
 μ = error term

The linear multiple regression model for investment is of the form:

$$Invest = \alpha + \beta_1 Age + \beta_2 Educ + \beta_3 Occup + \beta_4 Deps + \beta_5 Income + \beta_6 Exp + \beta_7 Assets + \beta_8 Sav + \mu.$$

Where, Invest = Investment; Age = age of respondent; Educ educational status of respondent; Occup = occupation of respondent; Deps = number of dependents; Income = level of income of respondent; Exp= expenditure; Assets= value of household assets; Sav= saving; and μ = error term

RESULTS AND DISCUSSION

Reasons for Saving and Investment

The following reasons account for households saving and investment behaviour (1) to cope with unexpected emergencies such as funerals, accidents, sicknesses, natural disasters, among others. (2) To buy some assets (that is, target saving) such as grinding mill, motorbike, residential houses, sewing machines, among others. (3) To pay for predictable expenses (such as school fees/levies, health insurance premium, among others). (4) To allow for future consumption (that is food at a time when stores are used up). (5) To make provision for retirement. (6) To accumulate enough funds for investment. (7) To employ the teeming unemployed youth. (8) To reap higher returns. (9) For luxury.

Forms of Saving and Investment

Out of the total sample (60), more than three-fourth (86.67%) practice saving and the rest 13.33 percent do not save at all due mainly to lack or insufficient funds. A slightly lower 76.67 percent of sampled households practice investment in diverse ways. The remaining 23.33 percent do not undertake any form of investment.

Two major forms of saving and investment have been identified: financial and non-financial. To policymakers and financial intermediaries, the former must be given greater priority because it seems easier to directly influence and also because it provides funds to financial intermediaries for lending purposes. In the present study, the bulk of saving has been mainly held in the form of financial at Sonzelle Rural Bank in the area, Susu group, Agricultural Development Bank (ADB), Ghana Commercial Bank (GCB), or Barclays Bank in Wa. Those who hold non-financial assets often consider them as investment rather than saving. This suggests that saving is normally held in financial form by a household which is contrary to the view that, rural households mainly hold the bulk of saving in the form of physical assets, whereas investment in the area is rather held in the form of non-financial assets such as farmland, grinding mill, livestock, crops, poultry, houses, and other consumer durables.

Table 1 Distribution of Households by Level of Financial Saving

Saving Group	Frequency	Percent (%)	Cumulative Percent
1-50	42	70.0	70.0
51-101	4	6.7	76.7
102-152	4	6.7	83.3
153-203	2	3.3	86.7
None	8	13.3	100.0
Total	60	100.0	
AVERAGE SAVING		GH¢48.73	

Determinants of Saving and Investment Behaviour

Saving

Households' saving behaviour is largely influenced by several variables like the perception of saving of those who save, their ability, willingness, objectives or motivations for saving and the opportunity to save. This deliberate decision on the part of the households to save in order to meet future needs depends on a number of factors. The factors normally considered as the determinants of saving include all the factors that affect the ability to save, the will to save and the opportunity to save.

Regression Estimates of Saving Model

The study examined the influence of different factors on financial saving and identified certain variables such as age of the head of the household, number of dependents, income level of household head, value of assets of household, educational status of household head (in terms of years of schooling) and occupation of the head of the household.

Table 2 Regression Output of Saving Model

Variable	Coefficient	Sig	T- value
Intercept	0.180	0.812	0.240
Age	0.127	0.180	1.360
Educational Status	0.305	0.014	2.532
Occupation	0.223	0.072	1.835
Number of Dependents	-0.508	0.000	-0.919
Level of Income	0.254	0.000	6.629
Value of Assets	0.021	0.807	0.246

$$R^2 = 0.0632, F = 15.152$$

From table 2, it can be seen that variables with significant influence on saving behaviour, in that order are, income, educational status and assets of respondents. The results of these variables support the hypotheses that they have a direct and positive impact on saving behaviour. The isolated factor, number of dependents, turned out to be a significant variable but with a negative sign. R-square of 0.632 was obtained which implies that 63 percent of the change in saving is attributed to the combined variations in the explanatory variables. The overall significance of a model is measured by using F-test. It has a value of 15.152 which is significant at 1% level. This means that the overall model has a good fit.

Demographic Factors and Saving

In the study, demographic factors like age of the head of the household, number of dependents and size of the household influenced the household saving either through their impact on the ability to save or through their impact on the will to save. These factors have both positive and negative effects depending on the extent or rate of increase or decrease.

Number of Dependents and Saving

Dependency ratio is defined as the ratio of number of dependents over the total number of household members. From table 2, the coefficient of number of dependents is -0.508 which implies that one more dependent will result in 0.508 Ghana cedis reduction in household saving. This thus have a negative effect on the saving of the households. High dependency ratios or so many dependents indicate more consumption expenditures and hence lesser saving. Some researchers have therefore suggested that dependency ratios should be inversely related with saving potential.

In the study, 1.67 percent of households who have no dependents had the highest average saving income ratio of 0.40. About 40.5 percent of households having one dependent each have an average income of GH¢88.67 and an average saving of GH¢16.67 with a saving income ratio of 0.19. Saving income ratio of households having 2 dependents is higher at 0.21 than those households with only one dependent. There are 18.33 percent of households with 3 dependents each. These households saved 14 percent of their income. Households having 4 dependents each showed a higher saving income ratio of 0.23. As the number of dependents increases further to 5, the average level of income increased to GH¢278.12. Meanwhile, saving income ratio has come down to 0.17. In addition, 15 percent of households sampled have 6 dependents. About 18.33 percent of households have 7 or more number of dependents. Their average income is higher at GH¢213.87 which results in a saving income ratio of 0.18.

The explanation above is presented in Table 3

Table 3 Number of Dependents, Average Income and Saving

Number of Dependents	Percent (%)	Average Income (GH¢)	Average Saving (GH¢)	Saving Income ratio
0	1.67	50	20.00	0.40
1	5.00	88.67	16.67	0.19
2	10.00	160.50	33.50	0.21
3	18.33	179.36	25.60	0.14
4	13.33	148.51	33.80	0.23
5	18.33	278.12	46.53	0.17
6	15.00	173.53	29.87	0.17
7+	18.33	213.87	37.50	0.18

Education of the Head of the Household and Saving

From table 2, educational status is significant at 5 percent level with a coefficient of 0.305. This means one more year of schooling will increase saving by 0.305 Ghana cedis . The explanation is that, the higher one's educational level the better his/her understanding and appreciation of the benefits of saving and hence higher saving.

Also, higher the level of education of the head of the household, the stronger is the demand for his or her services in relation to supply. Education in line with literature has a positive impact on households saving mainly because of increased awareness that occurs with higher educational levels. Higher education is also assumed to be associated with higher or better income and by extension higher saving rates.

Table 4 Educational Status of Respondents, Average Income and Saving

Level of Education	Percent (%)	Average Income (GH¢)	Average Saving (GH¢)	Saving Income Ratio
No education	21.67	59.62	8.50	0.14
Elementary/primary	10.00	100.00	18.00	0.18
Middle/J.H.S	20.00	129.09	24.36	0.19
S.H.S	18.33	196.91	45.00	0.23
Tertiary	26.67	434.73	120.08	0.28
Others	3.33	117.50	18.50	0.16

The survey data point to the fact that the level of income is directly influenced by the level of education. The saving income ratio has also been influenced to some extent by the level of education. About 21.67 percent of households headed by people with no education have a lower saving income ratio of 0.14. Ten percent of households headed by people with elementary/primary education have an average income of GH¢100.00 and a saving income ratio of 0.18. Twenty percent of respondents have middle/J.H.S education. These households have a saving income ratio of 0.19. Majority of the households interviewed (26.67%) attained tertiary education. These households got the highest average monthly income of GH¢434.73 and in turn saved the highest amount of 28 percent of their income. Household heads (18.33%) who generally reached S.H.S level saved 23 percent of their income. The last category (3.33%) of households headed by people who obtained other forms of education such as non-formal education has the second lowest saving income ratio of 0.16.

Occupation of the Head of the Household and Saving

The occupation of the household's head is yet another factor significantly affecting the saving differentials between households. Table 5 below presents a clearer picture of the above discussions.

Table 5 Occupations, Average Income and Saving

Occupation	Percent (%)	Average Income (GH¢)	Average Saving (GH¢)	Saving Income ratio	Percent Share in Total Saving
Farmers	21.67	57.12	11.94	0.21	7.70
Pito brewers	11.67	80.14	10.54	0.13	3.66
Dressmakers	8.33	96.66	21.18	0.22	5.25
Hairdressers	5.00	88.67	20.24	0.23	3.30
Teachers	25.00	257.51	65.78	0.26	41.88
Fire officers	8.33	409.34	98.77	0.24	25.31
Others	20.00	280.19	42.52	0.15	12.90

Source: Field Survey, 2010.

In Table 5 farmers (agricultural labourers) have an average income of GH¢57.12 and an average saving of GH¢11.94 with a corresponding 0.21 saving income ratio. Out of total saving, they are entitled to only 7.70 percent. Dressmakers recorded a saving income ratio of 0.22 higher than that of farmers and pito brewers. This may be attributed to the fact that they earn better income and/or are more expensed

to the importance of saving. Hairdressers, with average income lower than that of dressmakers (that is, GH¢88.67) rather have a higher saving income ratio of 0.23. Teachers and fire officers together (salaried group) have the highest saving income ratio of 0.50 in the sample which supports the hypotheses that occupational status is a significant determinant of income level hence saving level. Occupation groups such as traders, messengers, carpenters, contractors, sign writers and pensioners saved only 15 percent of their average income over the period in reference.

A coefficient of 0.223 on occupation in table 2 above indicates the significant role occupation plays in determining the amount of saving by a household head. It is clear that occupational status has a bearing on one's income level and by extension, the amount of saving at a particular moment in time.

Income and Saving

The ability of a household to save depends greatly on the income of the head of the household. By this, income is considered as one of the most important explanatory variables of the saving of the household. An increase in income has been found to raise a household's ability to acquire surplus funds.

Table 6 Average Income and Saving of Different Income Groups

Income Group	Percent (%)	Average Income (GH¢)	Average Saving (GH¢)	Saving Income ratio	Percent Share in Total Saving
1-50	21.67	38.92	7.47	0.19	4.15
51-101	21.67	77.13	17.62	0.23	4.82
102-152	20.00	130.21	31.77	0.24	7.69
153-203	11.67	184.53	44.29	0.24	10.58
204-254	6.67	216.35	56.95	0.26	11.36
255-305	5.00	271.23	74.87	0.28	13.99
306+	13.33	648.25	219.54	0.34	47.43

Clearly from table 6, income has a decisive role to play in determining the saving behaviour of households. About 13.33 percent of the households with incomes ranging from 306 Ghana cedis and above recorded the highest saving income ratio of 0.34. In that order, 5 percent of households with income in the bracket GH¢255-305 and who recorded the second highest average income of GH¢271.23 has the second highest saving income ratio of 0.28 and has a 13.99 percent share in total saving. Households with incomes ranging from 1-50 recorded the lowest saving income ratio of 0.19 and also had the least percentage share in total saving of 4.15. The income variable has a positive coefficient of 0.669 which is significant at 1% level. It also means that holding the other explanatory variables constant, 1 Ghana cedis more of income means 0.669 Ghana cedis more of predicted saving. In short, there is a strong and positive correlation between income and saving.

Assets, Income and Saving

Wealth, and for that matter assets, have been found to be a significant determinant of saving. A direct and positive relationship is observed to be between saving and wealth/assets as the latter to some extent raises ability to save. It has however been very difficult, if not impossible, to test the link between wealth/assets and saving in developing countries due partly to inadequate data. In the present study, assets were identified and categorized into livestock, poultry, crops and consumer durables. These assets were then valued at market value of May 2010 prices and grouped accordingly.

The wealth coefficient suggests that, the wealth is not a significant determinant of savings in the Nadowli Township though the sign is positive

Investment

Households often consider investment as the movement of saving from its current status of postponed spending to letting it work to earn more money. Others also see investment as the acquisition of income-generating assets (physical and financial). No matter how people define investment, it is largely influenced by several variables including the perceptions of investors, their ability, willingness, motivations for investment and the opportunity to investment. A deliberate choice of households to invest depends on a number of interrelated factors. These factors are usually regarded as the

determinants of investment behaviour and include among others assets, income level, age, educational status, occupation, number of dependents, expenditure and saving of household head.

Regression Estimates of Investment Model

The study examined the influence of different factors on investment and identified certain variables like level of income, number of dependents, educational status, occupation, expenditure, age, assets and saving which have a considerable influence on investment.

Table 7 Regression Output of Investment Model

Variable	Coefficient	Sig	T- value
Intercept	-0.517	0.323	-0.998
Age	0.088	0.141	1.495
Educational Status	0.081	0.287	1.077
Occupation	0.083	0.268	1.121
Number of Dependents	-0.016	0.777	-0.285
Level of Income	0.290	0.001	3.395
Expenditure	-0.175	0.019	-2.416
Assets	0.614	0.000	8.535
Saving	0.256	0.002	3.226

$$R^2 = 0.863, F = 40.208$$

R-square of 0.863 was obtained which implies that 86 percent of the change in investment is attributed to the combined variations in the explanatory variables. The overall significance of a model is measured by using F-test which is significant at 1% level. This means that the overall fitness of the model is good.

Level of income and Investment

From table 7, level of income is significant at 5 percent level with a positive coefficient of 0.290. This suggests that a one Ghana cedis increase in income will increase investment by 0.305 Ghana cedis. This reinforces the impact of the income factor in the wealth accumulation processes of households.

Expenditure and Investment

The coefficient of expenditure is -0.175 and 0.019 significant at 5 percent level. This implies that, one Ghana cedis increase in expenditure will reduce investment by 0.175 Ghana cedis. This agrees with the *a priori* expectation.

Assets and Investment

Table 7 depicts that 0.614 is the coefficient of assets. At 5 percent level, assets are significant. This means that one Ghana cedis more increase in assets will lead to 0.614 Ghana cedis increase in investment. This is understandable in the sense that income generating assets will yield more income for reinvestment.

Saving and Investment

Saving in this case is an independent variable of investment with a coefficient of 0.256. Saving is significant at 5 percent level. Investment will rise by 0.256 Ghana cedis if saving increases by one Ghana cedis. This refutes Say's theory that, what is saved is automatically invested.

Financial Saving Avenues

Table 8 Financial Saving Avenues in Nadowli

Avenue	Frequency	Percent (%)	Average Saving GH¢
Rural Bank	34	65.38	31.72
Susu Group	6	11.54	10.12
Rural Bank and Susu Group	5	9.62	37.60
Others	7	13.46	98.47
Total	52	100.00	177.91

Source: Field Survey, 2010.

Table 8 above outlines the saving avenues' in Nadowli which include Sonzelle Rural Bank, Susu group and others such as Ghana Commercial Bank, Barclays Bank, Agricultural Development Bank and National Investment Bank which are not in Nadowli but some households save with them. A significant number of people representing 65.38 percent saved at the Sonzelle Rural Bank, 11.54 percent saved with Susu groups, 9.62 percent also saved with both Sonzelle Rural Bank and Susu groups, while 13.46 percent saved with other avenues such as saving with relatives, friends, 'money boxes' and other non orthodox means of saving. It can be realized that higher percent of the people prefer Sonzelle Rural Bank to Susu groups due to high security, trust and proximity. However, people save with other banks which are not available in the community because they are wide spread throughout the country.

CONCLUSION AND RECOMMENDATIONS

There is the propensity to save and invest in Nadowli in spite of low income. There are factors having positive and negative influence on saving and investment behaviour of households in Nadowli. Whereas the levels of income, educational status, occupation, have positive influence on saving, the number of dependents exerts a negative influence on saving. The paper found that age composition and assets do not have a significant effect on saving. The factors that drive household investment are occupation, expenditure, assets and saving.

In view of the myriad of saving and investment potentials in Nadowli, the government, financial and non-financial institutions and other corporate bodies have a role to play to take advantage of these potentials and opportunities. Households also have a responsibility to turn their fortunes around. It is upon such a background that the following recommendations have been put forward to improve upon the situation.

The intensification of education on family planning by the National Commission for Civic Education (NCCE) and the District Assembly should translate into greater saving and investment since the number of dependents has been found to reduce the level of household saving and investment. Given the significance of the income factor in terms of both saving and investment incentives such as improved technology, appropriate farm support services, medium and long term loans should be provided by the government and other actors to households in order to boost their income level. The previous Bank of Ghana's (BoG) policy on savings which was christened "Post Office Savings Bank" (POSB) where savings were mobilized from the public through the various post offices in the country for investment in government paper should be reintroduced and vigorously pursued. This will provide alternative avenues for households saving.

Since people invest more in livestock and crops farming, government should train and deploy more veterinary and extension officers to the community to help farmers in their investment efforts. Intensive public education should be jointly organized for the people by the Sonzelle Rural Bank and other financial intermediaries on the need to save despite the quantum of one's income since some household heads do not appreciate the essence of saving. The Sonzelle Rural Bank, Susu Groups and other financial intermediaries should implement well-designed and flexible saving and investment programmes to further harness the potential in household saving and investment.

More access to education has proved important in enhancing savings. The findings support government's resolve to increase investments in education from the primary level through to the tertiary level. I dare say, it is not enough to increase investments in education and not monitor to see where the money really goes. The monitoring and evaluation system should be strengthened to plug leakages in the disbursement and implementation process. Also, funding towards adult education should be given a great boost. However, everything should not be left to government. NGOs should be encouraged to participate actively in the provision of education most especially training in entrepreneurship skills and financial management.

REFERENCES

Adams, D. W. (1978). Mobilizing Household Savings through Rural Financial Markets, *Economic Development and Cultural Change*, 26, 547-60.

Almar, J. A. Richard, L. M. (1998). *The Analysis of Saving Behaviour: The Case of Rural Households in The Philippines*. ACPC Working paper series 4, 88-20.

Bhalla, S. S. (1980). The Measurement of Permanent Income and Its Application to Saving. *Journal of Political Economy* , 88(4).

Gupta, K. L. (1970). Personal Saving In Developing Nations, Further Evidence. *Economic Record*, June House, PVT Ltd. New Delhi.

Horioka, C. Y. and Wan, J. (2007). The Determinants of Household Saving In China: a Dynamic Panel Analysis of Provincial Data. Forthcoming in *Journal of Money, Credit and Banking* (accepted December 20, 2006).

Kelly, A. C. and Williamson G. (1968). Household Saving Behaviour in Developing Economies: The Indonesian Case. *Economic Development and Cultural Change*, 6(3).

Kibet, L. K., Muntai, B., K., Ouma, D. E., Ouma, S. A. and Owour, G. (2009). Determinants of Household Saving: Case Study of Smallholder farmers, entrepreneurs and teachers in rural Kenya, *Journal of Development and Agricultural Economics*, 1(7), 137-143.

Mody, A (1983). *Rural Resources Generation and Mobilisation*. *Economic and Political Weekly*, Annual Number, May 1983.

Panickar; P. G. K. (1992). *Rural Household Savings and Investment: A Case Study of Some Selected Villages*. Center for Development Studies, occasional paper series, Trivandrum.

Prema-Chandra, A. and Pang-Long, T. (2003) Determinants of Household Saving in Taiwan: Growth, Demography and Public Policy, *Journal of Development Studies*, 39(6), 65-88.

Rogg, C. S. (2000). The Impact of access to Credit on the Saving Behaviour of Micro entrepreneurs: Evidence from three Latin American Countries. A paper based on a thesis submitted to the University of Oxford.

Schultz, T. P. (2005). Demographic Determinants of Savings: Estimating and Interpreting the Aggregate Association in Asia, IZA Discussion Paper No. 1479

Von Pischke, J. D. (1978). Towards an Operational Approach to Savings for Rural Development, *Savings and Development*, 2(1).

Received for Publication: 12/11 /2010

Accepted for Publication: 02/02 /2011